

AMENDMENTS TO THE CLAIMS

1-8. (Cancelled)

9. (Previously Presented) A channel code communication method for a base station in a CDMA (Code Division Multiple Access) mobile communication system, comprising the steps of:

transmitting spread data to a mobile station using a primary scrambling code representative of an identification code provided to the base station over a common channel; and
transmitting to a mobile station a secondary scrambling code identifier (ID) for scrambling data channels, when there is an insufficient number of channels, which can be used with the primary scrambling code.

10. (Previously Presented) The channel code communication method as claimed in claim 9, wherein the secondary scrambling code ID is comprised of 4 bits.

11. (Previously Presented) The channel code communication method as claimed in claim 9, wherein the secondary scrambling code ID is transmitted over the common control channel.

12. (Previously Presented) The channel code communication method as claimed in claim 9, wherein the secondary scrambling code ID is transmitted over a dedicated channel presently in service.

13. (Previously Presented) A channel code communication method for a mobile station in a CDMA communication system, comprising the steps of:

acquiring an ID of a primary scrambling code representative of an identification code provided to a base station during initial synchronization setting;
receiving a secondary scrambling code identifier (ID) from the base station;
generating the secondary scrambling code by combining the primary scrambling code ID and the secondary scrambling code ID; and

despreading a received data signal with the generated secondary scrambling code.

14. (Previously Presented) The channel code communication method as claimed in claim 13, wherein the secondary scrambling code ID is comprised of 4 bits.

15. (Previously Presented) The channel code communication method as claimed in claim 13, wherein the secondary scrambling code ID is received over a common control channel.

16. (Previously Presented) The channel code communication method as claimed in claim 13, wherein the secondary scrambling code ID is received over a downlink dedicated channel presently in service.

17-23. (Canceled)

24. (Currently Amended) A data transmission method in mobile communication system, the method comprising the steps of:

scrambling common channel signals, which include ~~including~~ a secondary scrambling code identifier (ID) with a primary scrambling code being assigned to a base station;

scrambling data channel signals with ~~the~~ a secondary scrambling code ~~being~~ associated with the primary scrambling code; and

transmitting the scrambled common and data channel signals to a mobile station;

~~identifying the base station by means of the primary scrambling code;~~

~~desrambling the common channel signals with the primary scrambling code; and~~

~~desrambling the data channel signals with the secondary scrambling code;~~

wherein the primary scrambling code and the secondary scrambling code are complex scrambling codes ~~consisted~~ consisting of a real component scrambling code and an imaginary component scrambling code, and ~~the mobile station generates the secondary scrambling code according to the secondary scrambling code ID~~ is determined with reference to the primary scrambling code.

25. (Previously Presented) The method of claim 24, wherein the common channel is a primary common control physical channel (P-CCPCH).

26. (Previously Presented) The method of claim 24, wherein the data channel is a dedicated physical channel (DPCH).

27. (Previously Presented) The method of claim 24, wherein the secondary scrambling code ID consists of 4 bits.

28. (Previously Presented) The method of claim 24, wherein the ID of the secondary scrambling code is transmitted over a control channel associated with a data channel presently in service.

29. (Previously Presented) The method of claim 24, wherein the imaginary part scrambling code is generated by shifting the real part scrambling code by specific chip period.

30. (Currently Amended) A mobile communication system for data transmission, comprising:

~~a base station including a scrambler for scrambling common channel signals including a secondary scrambling code identifier (ID) with a primary scrambling code being assigned to the a base station and data channel signals with a secondary scrambling code being associated with the primary scrambling code;~~ and

a transmitter for transmitting the scrambled channel signals to a mobile station;

~~the mobile station including a searcher for identifying the base station by means of the primary scrambling code and a descrambler for descrambling the common channel signals with the primary scrambling code and the data channel signals with the secondary scrambling code;~~

wherein the primary scrambling code and the secondary scrambling code are complex scrambling codes ~~consisted~~ consisting of a real scrambling code and an imaginary scrambling code, and ~~the mobile station generates the secondary scrambling code according to the secondary scrambling code ID~~ is determined with reference to the primary scrambling code.

31. (Previously Presented) The system of claim 30, wherein the common channel is a primary common control physical channel (P-CCPCH).

32. (Previously Presented) The system of claim 30, wherein the data channel is a dedicated physical channel (DPCH).

33. (Previously Presented) The system of claim 30, wherein the secondary scrambling code ID consists of 4 bits.

34. (Currently Amended) The system of claim 30, wherein the ID of the secondary scrambling code is transmitted over a control channel associated with a data channel presently in service.

35. (Previously Presented) The system of claim 30, wherein the imaginary part scrambling code is generated by shifting the real part scrambling code by specific chip period.

36. (New) A data transmission method in mobile communication system, the method comprising the steps of:

- identifying a primary scrambling code being assigned to a base station;
- descrambling a common channel with the primary scrambling code;
- acquiring over a common channel a secondary scrambling code identifier (ID) associated with the primary scrambling code;
- descrambling a data channel with a secondary scrambling code,

wherein the primary scrambling code and the secondary scrambling code are complex scrambling codes consisting of a real component scrambling code and an imaginary component scrambling code, and the secondary scrambling code is generated according to the secondary scrambling code ID with reference to the primary scrambling code.

37. (New) The method of claim 36, wherein the common channel is a primary common control physical channel (P-CCPCH).

38. (New) The method of claim 36, wherein the data channel is a dedicated physical channel (DPCH).

39. (New) The method of claim 36, wherein the secondary scrambling code ID consists of 4 bits.

40. (New) The method of claim 36, wherein the ID of the secondary scrambling code is transmitted over a control channel associated with a data channel presently in service.

41. (New) The method of claim 36, wherein the imaginary part scrambling code is generated by shifting the real part scrambling code by specific chip period.

42. (New) A mobile communication system for data transmission, comprising:
a searcher for identifying a primary scrambling code being assigned to a base station;
a descrambler for descrambling a common channel with the primary scrambling code and a data channel with a secondary scrambling code;

a controller for acquiring over a common channel a secondary scrambling code identifier (ID) associated with the primary scrambling code;

wherein the primary scrambling code and the secondary scrambling code are complex scrambling codes consisting of a real scrambling code and an imaginary scrambling code, and the secondary scrambling code is generated according to the secondary scrambling code ID with reference to the primary scrambling code.

43. (New) The system of claim 42, wherein the common channel is a primary common control physical channel (P-CCPCH).

44. (New) The system of claim 42, wherein the data channel is a dedicated physical channel (DPCH).

45. (New) The system of claim 42, wherein the secondary scrambling code ID consists of 4 bits.

46. (New) The system of claim 42, wherein the ID of the secondary scrambling code is transmitted over a control channel associated with a data channel presently in service.

47. (New) The system of claim 42, wherein the imaginary part scrambling code is generated by shifting the real part scrambling code by specific chip period.